

REMARKS

This Amendment is submitted in response to the Office Action mailed on November 28, 2003. Claims 1, 8, 11, 21, 25 and 31 have been amended, and claims 2, 9, 26 and 32 have been canceled without prejudice or disclaimer. Claims 1, 6-8, 10-14, 18-21, 23-25, 27-31 and 33-41 remain in the present application. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Claims 1-2, 7-10 and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Perkins, U.S. Patent No. 1,829,236. Claims 1-2, 6-14, 18-20 and 25-41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Claes et al., U.S. Patent No. 5,326,138. Claims 1, 6-8 and 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent No. JP 6-185681. Lastly, claims 6, 18 20-21 and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perkins. While Applicants respectfully traverse these rejections, Applicants have amended each of independent claims 1, 8, 21, 25 and 31 to more sharply define the present invention over the prior art of record and respectfully request that the rejections be withdrawn.

In particular, Applicants have amended each of independent claims 1, 8, 21, 25 and 31 to recite that the sleeve is formed from a sheet material and has at least one rigid and radially inwardly directed annular corrugation formed across

its width prior to securement of the sleeve about the first pipe section end. The annular corrugation of the sleeve is configured to cooperatively engage an annular corrugation provided on the first pipe section end when the sheet is wrapped around the first pipe section end to secure the sleeve on the first pipe section and thereby prevent separation of the sleeve from the first pipe section. Applicants respectfully submit that the combination of elements or steps recited in each of amended independent claims 1, 8, 21, 25 and 31, and claims depending therefrom, is not taught or suggested by the prior art of record and the rejection should be withdrawn.

Specifically, Perkins is directed to a pipe joint comprising a coupling band or sleeve (16) which encircles the opposing ends of pipe sections (10, 11). In the pipe joint embodiment of Fig. 1, the sleeve is positioned about the pipe section ends and, thereafter, the ends of the sleeve are seated and pressed in annular grooves (17) formed in the pipe section ends to reliably secure the sleeve to the pipe section ends (see lines 50-55). To further aid in securing the ends of the sleeve to the pipe section ends, clamping wires (20) may be employed. In the pipe joint embodiment of Fig. 2, the sleeve is positioned about the pipe section ends and, thereafter, the ends of the sleeve (21) are rolled or pressed by a suitable tool into annular grooves (22) formed in the pipe section ends and securely fastened therein by clamping rods or wires (23) (see lines 86-93). Fig. 2 of Perkins clearly

shows the right end of the sleeve prior to the sleeve end being rolled or pressed into the annular grooves (22).

Accordingly, Applicants respectfully submit that Perkins taken alone, or in combination with the other prior art of record, fails to disclose or suggest a sleeve which is formed from a sheet material and has at least one rigid and radially inwardly directed annular corrugation formed across its width prior to securement of the sleeve about one of the pipe section ends as now claimed by Applicants. Moreover, Perkins taken alone, or in combination with the other prior art of record, fails to teach or suggest a sleeve having a radially inwardly directed annular corrugation which is configured to engage an annular corrugation provided on a pipe section end when the sheet is wrapped around the pipe section end to secure the sleeve thereto as claimed by Applicants. Accordingly, Applicants respectfully request that the rejections of independent claims 1, 8 and 21 as not being patentable in view of Perkins be withdrawn.

Claes et al. is directed to a plastic sleeve having opposite ends which define opposite facing coupling bells (C) for receiving respective ends of corrugated tubing (B). Each end of the corrugated tubing (B) is inserted, in an axial direction, within each of the respective bells.

Applicants submit that Claes et al. fails to teach or suggest a sleeve which is formed from a sheet material and has an annular corrugation which is configured to engage an annular corrugation on a first pipe section end to secure

the sleeve on the first pipe section end and thereby prevent separation of the sleeve from the first pipe section as claimed by Applicants. Rather, the corrugation (10) of Claes et al. merely serves as an inward valley or stop around the geometric center of the sleeve to limit the extent of engagement of the tubing ends to ensure that each is received to the same proper depth within the sleeve (see Column 3, lines 46-52). Accordingly, even if the Claes et al. sleeve were formed of metal as sought in the rejection by Examiner, which Applicants submit is based on improper hindsight and would improperly destroy the intended structure and function of the Claes et al. sleeve, the hypothetical sleeve would still fail to achieve Applicants' claimed invention since the corrugation (10) is not configured to engage an annular corrugation on the first pipe section end to secure the sleeve on the first pipe section end and thereby prevent separation of the sleeve from the first pipe section as claimed by Applicants. Moreover, Claes et al. does not teach or suggest a sleeve formed from a sheet material and having a radially inwardly directed annular corrugation preformed across its width. Accordingly, Applicants submit that the rejections of independent claims 1, 8, 25 and 31 as being unpatentable in view of Claes et al. should be withdrawn.

Moreover, with respect to the rejections of independent claims 25 and 31 in view of Claes et al., the Examiner's position that Claes et al. discloses a radially inwardly directed annular projection (44) in Fig. 7 is not understood. Each of independent claims 25 and 31 recites a radially inwardly directed annular

projection disposed about the inner diameter of the bell. In contrast, the projections (44a-c) as shown in Fig. 7 of Claes et al. clearly project radially outwardly about the inner diameter of the bell (C) so the rejections of independent claims 25 and 31 should be withdrawn for these reasons as well.

Lastly, with respect to the rejections of independent claims 1 and 8 as being unpatentable over the Japanese reference, Applicants submit that the Japanese reference taken alone, or in combination with the other prior art of record, fails to teach or suggest a sleeve which is formed from a sheet material and has at least one rigid and radially inwardly directed annular corrugation formed across its width prior to securement of the sleeve about one of the pipe section ends as now claimed by Applicants. Rather, the plastic sleeve (S₂) embodiment of Fig. 5 is blow molded onto the end of the double-wall pipe so that the annular corrugation is formed simultaneously with the formation and securement of the sleeve about the pipe section end during the blow molding process. Moreover, with respect to the sleeve embodiment of Fig. 5, the annular corrugation is not configured to engage an annular corrugation on a first pipe section end to secure the sleeve on the first pipe section end and thereby prevent separation of the sleeve from the first pipe section as claimed by Applicants. Rather, the annular corrugation shown in Fig. 5 merely serves as an inward stop to properly position the ends of the pipe sections within the sleeve. Consequently, Applicants request that the rejections of independent 1 and 8 as not being patentable in view of the Japanese reference be withdrawn.

Moreover as claims 6-7, 10-14, 18-20, 23-24, 27-30 and 33-41 depend from allowable independent claims 1, 8, 21, 25 and 31, respectively, and further as each of these claims recites a combination of elements not taught or suggested by the prior art of record, Applicants respectfully submit that these claims are allowable as well.

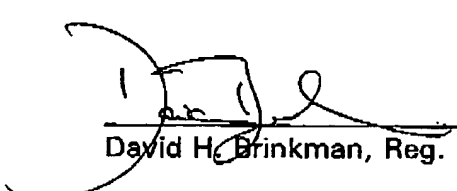
Conclusion

In view of the foregoing response including the amendments and remarks, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If there is any issue that remains which may be resolved by telephone conference, the Examiner is invited to contact the undersigned in order to resolve the same and expedite the allowance of this application.

Applicants do not believe that this response requires that any fees be submitted, however, if any fees are deemed necessary, these may be charged to Deposit Account No. 23-3000.

Respectfully submitted,

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